DOCUMENT RESUME

ED 361 164 RC 019 324

AUTHOR	Walberg, Herbert J.
TITLE	On Local Control: Is Bigger Better?
PUB DATE	92
NOTE	20p.; In: Source Book on School and District Size, Cost, and Quality, see RC 019 318.
PUB TYPE	Information Analyses (070) -- Reports - Research/Technical (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Cost Effectiveness; Educational Finance; Educational Policy; Elementary Secondary Education; *Mathematics Achievement; Public Schools; *School District Size; *School Size; *State Aid; *State School District Relationship
IDENTIFIERS	Economies of Scale; Local Control; National Assessment of Educational Progress

ABSTRACT

The United States ranks first in the world among major industrialized nations in school costs and ranks nearly last in student achievement. Three massive changes in state educational policies during the last half century may account for this low educational productivity. From 1940 to 1990: (1) the number of U.S. school districts decreased 87 percent (from 117,108 to 15,367), while average district enrollment increased over 10 times from 217 students to 2,637; (2) the number of public schools decreased 69 percent (from approximately 200,000 to 62,037), while average enrollment increased over 4 times from 127 students to 653; and (3) the percentage of school revenues from state funding increased from 30 to 48 percent, now exceeding local revenues. Data from the National Assessment of Educational Progress and federal reports were analyzed for 37 states and the District of Columbia. Average state scores for grade 8 mathematics proficiency were significantly and negatively related to average school size, average district size, and percentage of educational funding (excluding federal funds) paid by the state. This finding is supported by a literature review covering research on economies and "diseconomies" of scale, the relationship of organizational size to efficiency and productivity, the growth of state educational bureaucracies, the influence of school size on educational outcomes, and the effects of "remote" educational funding on local control and accountability. (SV)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 361 164

On Local Control: Is Bigger Better?

Herbert J. Walberg
University of Illinois at Chicago

RC 019324

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Introduction

In achievement comparisons among industrialized countries, U.S. students usually rank near the bottom, even on American tests. Moreover, achievement scores remain low despite steadily increased spending on public schools. During the half century between 1940 and 1990, inflation-adjusted costs rose more than five times, from $878 to $5,292 per student. Current school costs place the U.S. first in the world among major industrialized countries (U.S. Department of Education 1991, 1992).

What happened during the last half century to make the U.S. first in costs and near last in learning? Why such low productivity by historical and international standards? Three massive changes in state policies may provide surprising answers:

1. The number of school districts declined 87 percent, from 117,108 to 15,367. The average number of students enrolled in each district rose more than ten times, from 217 to 2,637 students.
2. The total number of elementary and secondary public schools declined 69 percent, from approximately 200,000 to 62,037. Their average enrollment rose more than four times, from 127 to 653.
3. The percentage of school revenues from local sources declined while the state share increased sharply. While the federal share never exceeded 10 percent, the state share rose from 30 to 48 percent to exceed local revenues.

Recent reviews of research and findings reported here suggest that these trends were in exactly the wrong direction. Higher achieving states have smaller districts, smaller schools, and

smaller state shares of school costs. Before turning to these findings, consider previous research on the effects of organizational size and remote governance.

Economies of Scale?

Some education finance specialists equate educational quality with size and costs (see, for example, Cohn & Geske, 1990, pp. 205-210). Influenced by older economic theory, they hold that schools and districts are like goods and service industries. They assume "economies of scale," that is, falling per-unit costs with greater numbers of units produced or served. If this were true, then large schools and districts could cut costs, raise quality, or both.

Even if the analogy of firms and schools is valid, research on manufacturing and service industries fails to show consistent scale economies. Gold (1981), for example, concluded: "It is important to recognize that the widespread faith in the 'economies of scale' has not gained much support from the relevant theoretical and empirical literature" (p. 5). Gold cited five extensive summaries of research, one going back to 1943, suggesting "equally unenthusiastic" conclusions.

The studies yield conflicting findings: "Results of scale-economy studies have been mixed with some researchers reporting a negative relation between size and economies of scale, others finding a positive relationship, and a third group identifying medium size as most economical" (Gooding and Wagner, 1985, p. 462). Similarly, studies of schools have shown mixed results (Cohn & Geske, 1990; Guthrie, 1979; Gooding & Wagner, 1985; Sher, 1977).

For these reasons, economists now write about "diseconomies of scale" in referring to rising per-unit costs with organizational size. Indeed, American primary and secondary education has exhibited huge diseconomies of scale during the past half century: The figures

above show that per-student costs rose 6 times, district size rose 12 times, and school size rose 5 times.

Quality of Outcomes

More important than costs is quality or ultimate value of education - what students learn. Is bigger better? Gooding and Wagner (1985) summarized 95 relations of size and value outcomes in 31 field studies of schools, school districts, colleges, hospitals, work groups, and manufacturing and service firms. The value measures included academic and nonacademic achievement, extracurricular activities, graduation rates, quality of service ratings, output per employee, and profitability.

The value of output per unit was inversely related to size—that is, larger organizations and subunits were less efficient at producing high-quality outcomes. For organizations such as hospitals and business firms, the correlation was weak and negative (-.06), but statistically significant. In subunits of organizations, such as schools within districts, academic units within universities, psychiatric units within hospitals, and manufacturing units within firms, the correlation was more strongly negative and significant (-.28).

Why do larger organizations and larger subunits tend to produce less per-unit value? Buchanan (1968), Gooding and Wagner (1985), and Olson (1971) identified organizational phenomena that reduce efficiency or productivity. These appear more prevalent in larger organizations, particularly larger public agencies with vague goals. In the language of organization theory, "coordination costs" among functional departments and administrative levels divert money, time, and attention away from ultimate purposes. "Agency problems" prevent

governing boards and chief executives from getting full and accurate information from all parts of the organization. "Bureaucracies" favor standard operating procedures over more productive and client-satisfying innovations.

In addition, staff members, even in public agencies, may lack altruistic perfection. "Agency problems" enable staff to work for their own (possibly self-interested) purposes. They should instead be trying to suit board directives, consumer tastes, and client preferences. "Free riders" reap benefits of staff membership while evading costs of full effort. "Rent seekers" try to impose costs for unneeded or unperformed services, thereby reducing value in relation to consumer or public costs.

District Size Bureaucracy

Inefficiency attributable to growing bureaucracy also occurs to state agencies and school districts. Rowan's (1982) case studies in California showed that between 1930 and 1970 districts grew in size. They responded to state mandates and external pressures to add specialized administrators and separate programs for instructional, health, psychological, and other services. These services were added as legislators; special interests; regulatory agencies; and professional associations built consensus among themselves. They brought pressure to bear on state departments of education and school districts to provide specialized and peripheral programs such as driver education.

Rowan attributed the motivation of external groups in seizing local control to their perceptions of a lack of consensus among local citizens and a lack of expertise among local

educators. In addition, financial inducements and regulatory burdens by federal and state authorities undoubtedly pressured districts to grow bureaucratically.

Similarly, Strang (1987) documented the rising power of state bureaucracy and declining autonomy of local districts even as they grew larger. In support of this view, he cited the eightfold decline in the average number of districts per state, from 2,437 to 318 between 1949 and 1980, and a rise in the average number of students per district, from 216 to 2,646. As state funds, legislation, and regulations increased, education took on classic bureaucratic features: centralization of control, formal hierarchies, specialization of function, narrow credentialism, and precedence of impersonal means over nominal ends.

For example, specialists in subject matters and types of children such as "learning disabled" were hired at state, district, and school levels. The later years of the traditional eight-year elementary school were replaced by departmentalized middle and junior high schools. In these schools, the subjects are compartmentalized. Students have as many as five specialized teachers per day, none of which are likely to know them as well as traditional elementary teachers who have the same class most of the day. Like hospitals that treat diseases rather than patients, such schools are likely to teach subjects rather than students, and to assign responsibilities for mental health and guidance, speech and hearing to specialists.

Strang pointed to the coordination of local and state functions in large districts driven by specialized federal initiatives. For example, special funding for handicapped and vocational programs promoted their special interests, but excluded educational generalists, other specialists, and lay citizens. Smaller districts often skip such specialization, thereby maintaining a cohesive general curriculum. Further, they can adapt to local preferences and conditions, and strengthen

ties among school, home, and community that induce learning. Such districts do fewer things better and avoid spurious categorization of students, ineffective programs that ill-serve them, and expensive administrative complexity.

District Size and Quality

Since *A Nation at Risk* in 1983, the primary education question concerned learning rather than spending as an index of educational quality (National Commission for Excellence in Education, 1983). Despite the huge growth of school districts for the past half century, no studies were made of their learning effects until 1975. All recent studies, however, suggest that smaller ones do better.

Such studies typically control for educational costs, student socioeconomic status, and other factors. Monk's (1987) study exemplifies recent findings: "Empirical evidence from New York State is presented which shows that lower levels of efficiency exist in large as compared to small districts" (p. 148). In the same year, Walberg and Fowler's (1987) analysis of New Jersey districts also showed an inverse size-achievement relation. Earlier, Bidwell and Kasarada (91975), and Turner, Camilli, Kroc, and Hoover (1986) found larger Colorado districts to achieve less efficiently.

School Size and Quality

Many more studies have examined the influence of school size on outcomes. In a comprehensive review, Fowler (1992) notes that Conant (1967) and Barker and Gump (1964), though in disagreement, wrote the seminal works on the subject. Former president of Harvard

and Ambassador to Germany, Conant initially won the day. Funded by the Carnegie Foundation and the National Association of Secondary School Principals, he examined questionnaires from 2,024 high schools of 750 to 1,999 enrollments. Despite the lack of smaller schools for comparison, Conant concluded that large, "comprehensive" high schools offer a wide program of foreign languages and Advanced Placement courses (for college credit) at lower cost.

Barker and Gump (1964), on the other hand, closely observed five Kansas schools ranging in size from 83 to 2,287 students. They concluded that students in small schools excel at all social and psychological attributes observed. Their findings could be explained by applying the theories described above to such phenomena as close parent and community ties, the absence of anonymity and indifference, and lack of internal hierarchy and departmentalization.

Barker and Gump's explanation, however, employed the complementary anthropological idea of "manning": When few students are available for school activities, students who would be marginal in a large school are noticed and encouraged to participate to fill slots on the cheerleaders and basketball teams, for example. With such participation, as more recent research confirms, loneliness, deviance, and drug use declines, while engagement, achievement, and concern for others rises.

Although school policy followed Conant, research bears out Barker and Gump. The preponderance of studies show that, other things being equal, students generally learn more in smaller schools and reap related benefits. Because of the voluminous literature, the conclusions of Fowler's (1992) extensive review are summarized.

Small elementary schools show reasonably consistent and positive learning effects. Perhaps the main reason is that the main agents of learning, teachers and students, undistracted

by departmentalization and hierarchy, can concentrate on the lessons at hand. Parents, too, are more likely to know the principal, be informed about the children's progress, participate more fully in school activities, and influence decision-making. These can be accomplished partly because the school is smaller but also because it is likely to be physically and psychologically close to their homes. In addition, modern educational psychology shows the value of the one-room school practices of a century ago—mastery materials, mixed-age grouping, peer tutoring, and reciprocal teaching in which students teach each other (Gutierrez & Slavin, 1992; Wang, Haertel, & Walberg, 1990).

Size studies of high school achievement are somewhat less consistent, perhaps because students' funds of learning are greater and new additions add relatively smaller amounts. The studies, however, show consistent benefits of small size on the critical problems of adolescent students: Smaller high schools promote student satisfaction and sense of belonging, participation and accomplishment in school activities, attendance and retention, and avoidance of cigarettes, smokeless tobacco, alcohol, and marijuana. Several studies suggest that smaller schools may benefit at-risk students of lower socioeconomic status more than others.

Marion and McIntire's (1992) important study controlled not only for the usual variables of socioeconomic status and per-student costs but also region of the country and ruralness. In an analysis of 710 schools, their analysis showed that, even discounting the positive effects of rural location, smaller high schools yielded greater achievement and years of attained education after high school. Thus, smaller schools showed long-range effects independent of rural advantages.

A related topic deserves mention—urban "alternative schools," now often called "schools of choice," which tend to be much smaller than regular urban high schools. They come in a bewildering variety, but have proven effective for both regular students, often with special interests, and students with such problems as delinquency, dropping out, drug abuse, and pregnancy (Nathan, 1989).

The small size of alternative schools may allow or encourage a variety of unconventional virtues. Often, their principals teach; teachers assume responsibility for all subjects rather than a specialty; the school is surreptitiously detached from central office bureaucracy; and they are very locally governed by "town meetings" of the staff and parents—sometimes students. Staff frequently bring in outside experts to teach; and students study in the field and in cooperating organizations (Nathan, 1989). Alternative schools exhibit several features of effective organizations: democratic governance, a distinctive identity, ideals and rules that all are expected to abide by, a caring sense of community, an absence of hierarchy and departmentalization, and openness to the environment.

State Share of Costs

Since per-student costs multiplied during the years that states paid ever larger percentages of school costs, it might be concluded that the rising share and rising bureaucracy might have caused inefficiency. During the past decade of education reform, when states picked up a greater percentage of education costs, it is obvious that legislatures have also passed a variety of familiar mandates such as course requirements, statewide testing, no passplay rules, driver

education, and a host of other initiatives and regulations. There is no empirical research, however, on the learning effect. Still, several views seem reasonable as working hypotheses.

Organization theory and evidence (Buchanan, 1968; Olson, 1971) suggests that placing responsibility for decision making in a large, remote, hierarchical agency—the state legislature and executive branch—removes local control from school boards and staff. Obviously, the total amount and specific allocation of funds are among the most important decisions an organization can make. Removing this authority means that local citizens and educators have less at stake, less incentive to monitor the raising and spending of "other people's money" that is collected anonymously through state income tax and contains various regulatory strings and constraints on allocation.

Conversely, as Olson (1971) has shown, special interests have greater inducements to exercise influence at the state and national level; they have concentrated narrow interests in legislation and regulations that can benefit them greatly. Typical citizens, school board members, and educators, however, cannot follow the many specialized bills passed by legislatures; nor are they likely to be greatly affected by any single act. The result, however, is that local autonomy and accountability tend to be lost.

There are other risks of remote funding: Boards and superintendents may have less at stake when they need not justify the spending of remotely raised funds for new facilities, equipment, and programs to local tax payers. Bureaucracy requires financial and operational reporting, forms for special state grants, waivers to depart from standard procedures, and the like. Time consuming, these activities draw attention from teaching and learning.

Analysis of State Achievement

If these theories and previous research are valid, then states with large districts, large schools, and large shares of within-state funding should do poorly. The first administration of the National Assessment of Educational Progress to random state samples allows estimates of the effects of the three state trends on achievement. Thirty-seven states and the District of Columbia voluntarily participated in the eighth-grade mathematics proficiency test that contained items on numbers, operations, measurement, geometry, data analysis, probability, algebra, and mathematical functions.

Taken from federal reports (U.S. Department of Education, 1991, 1992), the other measures are average school size in state, average size of districts, and percentage of educational revenues raised within-state paid by the state as opposed to local districts. Their relation to achievement is shown in the three figures that show the states by their standard postal codes.

The first figure, "Achievement and District Size," shows North Dakota, Montana, and Nebraska on the upper left. These states have the smallest average district sizes, around 250, and the highest average achievement, around 280, as revealed by their height on the graph. On the other hand, states with large districts, over 200,000, Louisiana, Florida, the District of Columbia, and Hawaii, have low achievement.

The second figure shows that states with the smallest average school sizes, around 150 students, are North Dakota, Montana, Nebraska, and Wyoming. Their height shows that they also have the highest average achievement. States with the largest schools, Florida and Hawaii, have low achievement.

The third figure shows that Nebraska and Oregon contribute the smallest percentages to education costs, around 25 percent, but have high scores. States that contribute 75 percent or more—California, Alabama, Kentucky, New Mexico, and Hawaii—have low scores on average.

Thus, what might be expected from previous theory and research is confirmed: States with big districts and big schools, and which pay more of the costs of education tend to have the lowest achievement. The respective statistical correlations (-.46, -.54, and -.53) are substantial and statistically significant.

Conclusion

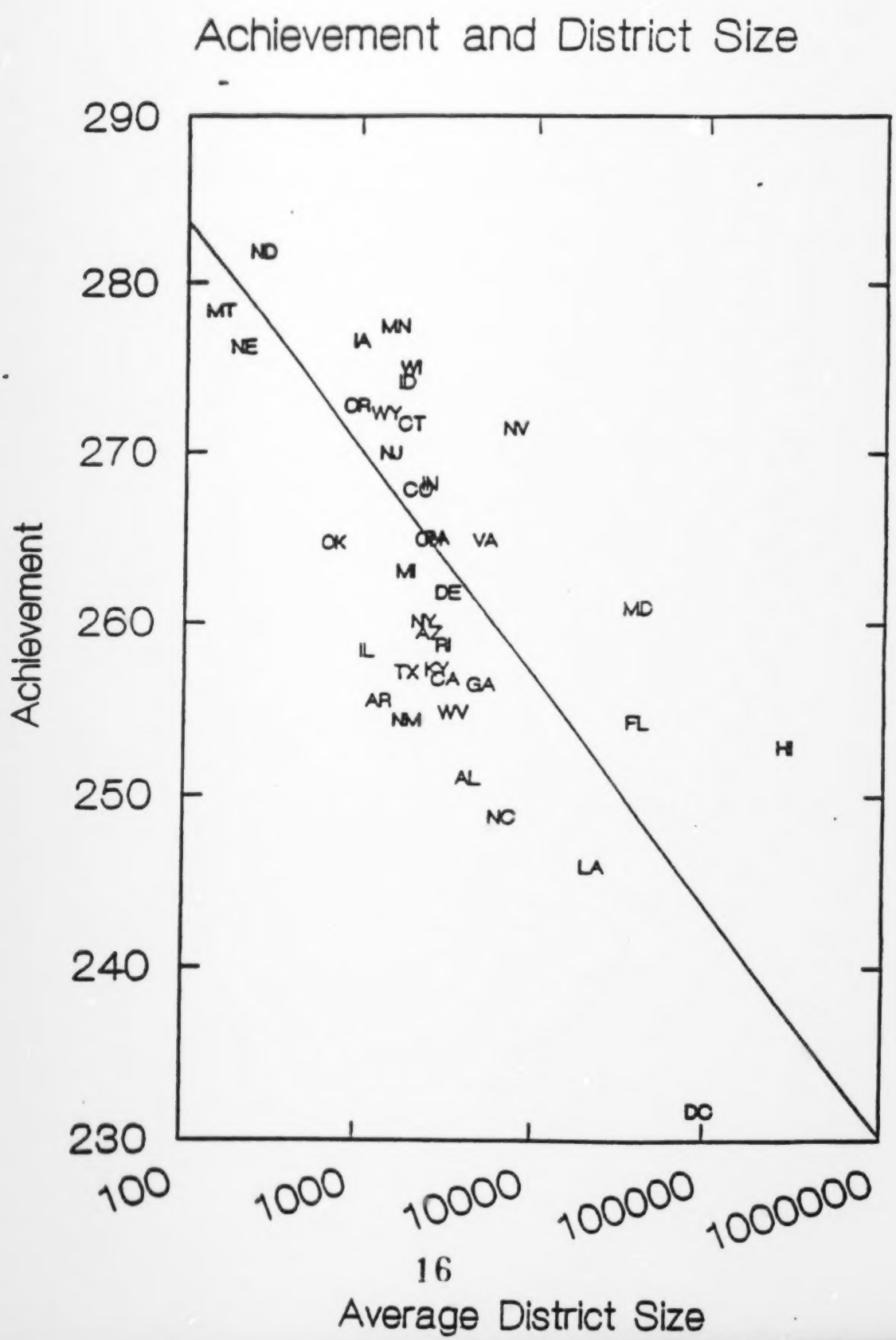
During the past half century, states have created ever larger schools and districts, and they have increasingly employed remote state funding. Previous theory, research, and analyses of achievement data in 38 states reported here suggest that these trends have been counter-productive for education's chief purpose—learning.

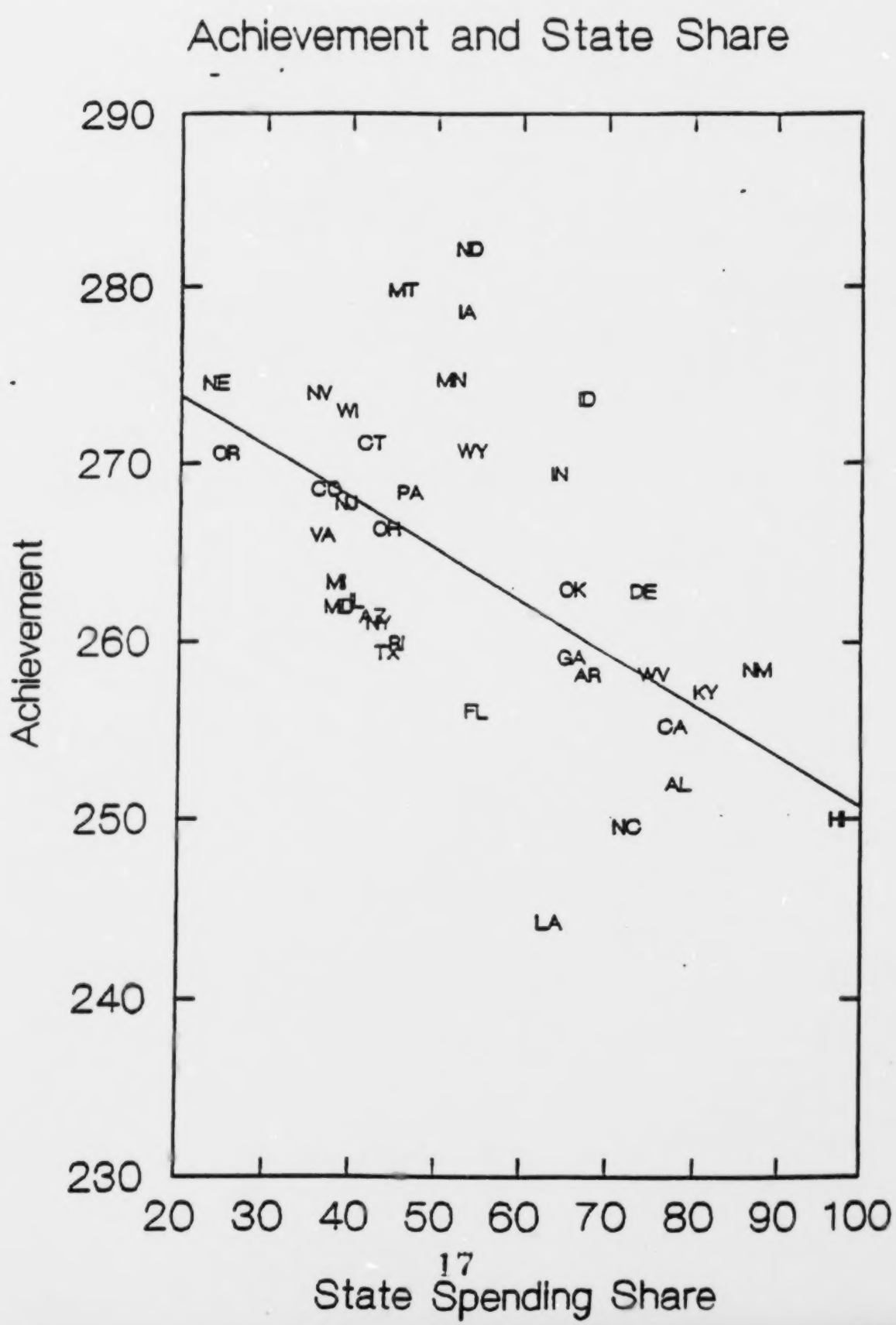
The worrisome trends identified here may be part of a larger problem—"intergovernmentalism," making more levels and parts of government responsible for domestic affairs, even though common sense says that when all are nominally responsible, none is truly responsible. In writing on this subject, Kincaid concluded: "Virtually all of the factors most associated with academically effective education are school and neighborhood-based. Yet, we have shifted more control and financing of education to state and national institutions" (p. 28).

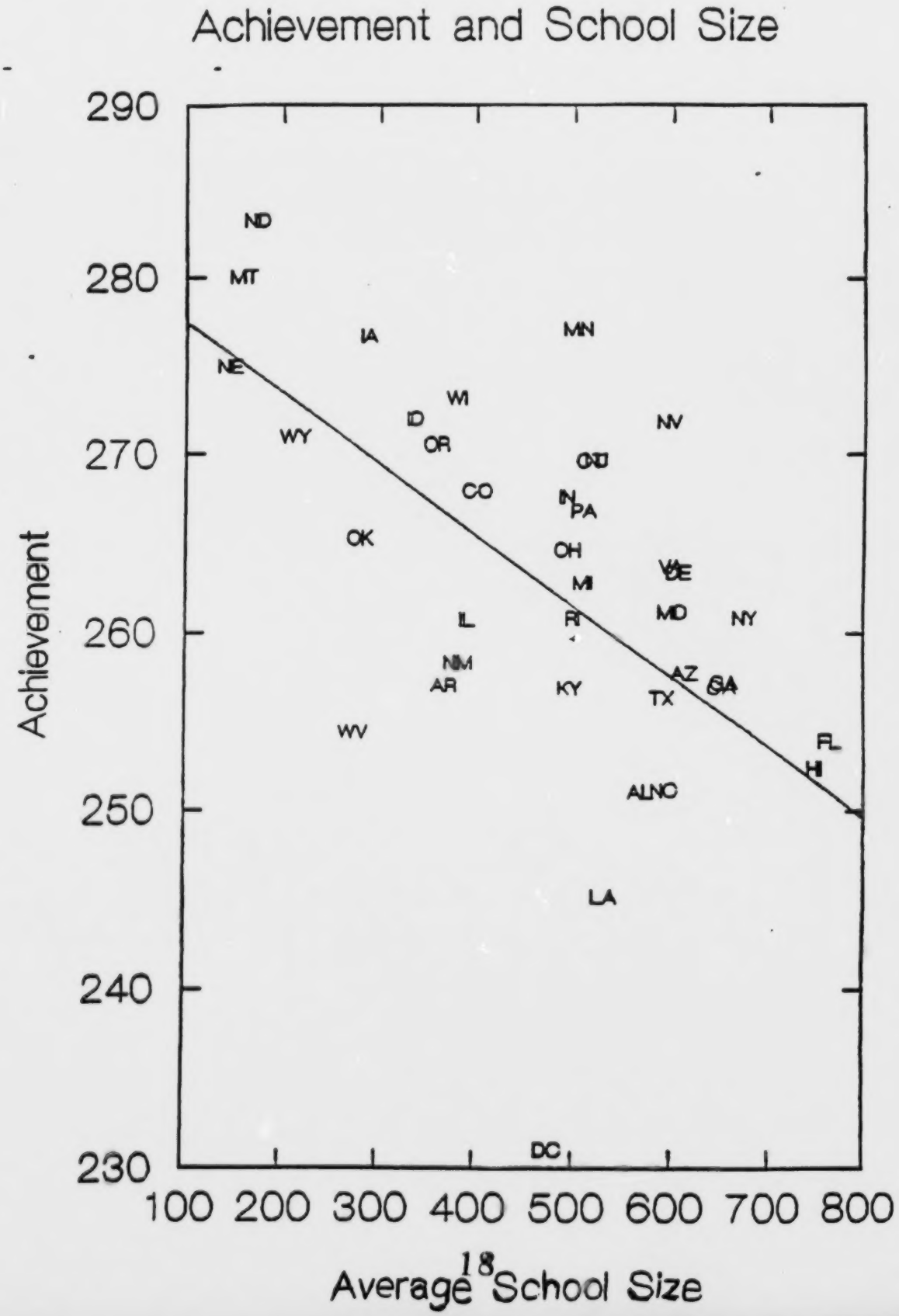
It might not be possible to eliminate these harms without returning to earlier ways and wisdom—as formidable a task as that may be. Modern means of devolving funding and control have yet to prove their value. These include state accountability schemes, school-site

management, the New York City plan for community boards, and the Chicago plan for local school councils. Nor have "home rooms" and "schools within schools" shown that they can give students the psychological identification with their schools that they may require for a satisfactory learning experience. It might be wiser to turn back or stop the clock.

Append to: Walberg, Herbert J., "On Local Control: Is Bigger Better?"




Achievement and State Share
290
280
270
260
250
240
230
Achievement
20 30 40 50 60 70 80 90 100
State Spending Share
ND
MT
IA
NE
NV
MN
ID
WI
CT
WY
OR
IN
PA
VA
OK
DE
GA
AR
WV
NM
KY
FL
CA
AL
NC
HI
LA


Achievement and School Size
290
280
270
260
250
240
230
Achievement
ND
MT
IA
MN
NE
WI
ID
NV
WY
OR
CO
IN
PA
OK
OH
VA
DE
MI
MD
NY
IL
RI
NM
AR
KY
AZ
GA
TX
WV
FL
HI
ALNC
LA
DC
100 200 300 400 500 600 700 800
Average School Size

References

Barker, R.G., & Gump, P.V. (1964). Big school, small school: High school size and student behavior. Stanford, CA: Stanford University Press.

Bidwell, C.E., and Kasarda, J.D. (1975). School district organization and student achievement. American Sociological Review, 40, 55-70.

Buchanan, J.M. (1968). The demand and supply of public goods. Chicago: Rand-McNally.

Conant, J.B. (1967). The comprehensive high school. New York, NY: McGraw-Hill Book Company.

Cohn, E. (1990). The economics of education. Oxford, England: Pergamon Press.

Fowler, W.F. (1992). What do we know about school size? What should we know? A paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Gold, B. (1981). Changing perspectives on size, scale, and returns. Journal of Economic Literature, 19, 5-33.

Gooding, R.Z., & Wagner, J.A. (1985). A meta-analytic review of the relationships between size and performance: The productivity and efficiency of organizations and their subunits. Administrative Science Quarterly, 30, 462-481.

Guthrie, J.W. (1979). Organization scale and school success. Educational Evaluation and Policy Analysis, 1, 17-27.

Gutierrez, R., & Slavin, R. (July 1992). Nongraded school programs regain popularity. CDS Report. Baltimore, MD: Center for Research for Disadvantaged Students.

Kincaid, J. (Winter, 1992). Is education too intergovernmental? Intergovernmental Perspective, 28-34.

Monk, D.H. (1987). Secondary school size and curriculum comprehensiveness. Economics of Education Review, 6, 137-150.

Nathan, J. (1989). Public schools by choice. St. Paul, MN: The Institute for Learning and Teaching.

National Commission for Excellence in Education (1983). A nation at risk. U.S. Government Printing Office, Washington, DC.

Olson, M. (1971). The logic of collective action. Cambridge, MA: Harvard University Press.

Rowan, B. (1982). Organizational structure and the institutional environment: The case of public schools. Administrative Science Quarterly, 27(3), 259-79.

Sher, J.P. (Ed.) (1977). Education in rural America: A reassessment of conventional wisdom. Boulder, CO: Westview Press.

Strang, D. (1987). The administrative transformation of American education: School district consolidation, 1938-1980. Administrative Science Quarterly, 43, 352-66.

Turner, R., Camilli, G., Kroc, R., and Hoover, J. (1986). Policy strategies, teacher salary incentive, and student achievement: An explanatory model. Educational Researcher, 15, 5-11.

U.S. Department of Education (1991). Digest of education statistics, 1991. Washington, DC: Author.

U.S. Department of Education (1992). The condition of education, 1992. Washington, DC: Author

Walberg, H.J., & Fowler, W.F. (1987). Expenditure and size efficiencies of public school districts. Educational Researcher, 16, 5-15.

Wang, M.C., Haertel, G.D., & Walberg, H.J. (1991). What influences learning?—A content analysis of review literature. Journal of Educational Research, 84, 30-44.